

## **REMARKS**

The above Amendments and these Remarks are submitted under 35 U.S.C. §1.111 in response to the Office Action mailed on June 19, 2008.

### **Summary of the Primary Examiner's Action and Applicant's Response**

The Examiner has rejected Claims 21, and 26-27 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement by not disclosing a biosensor capable of detecting bio-agents within 20 minutes.

The Examiner has rejected Claims 19-21, 23-24, and 26-28 under 35 U.S.C. 103(a) as being unpatentable over Lehman US 2003/0110946 in view of Rotman US 6872539, Burdine US 2003/0101700, Galloway US 5,292,695, and Galloway US 2003/0022035.

The Applicant has satisfied the requirement under 35 U.S.C. § 112, first paragraph to provide a written description by disclosing in the first sentence of paragraph 18 on page 5 of the subject specification, a biosensor capable of detecting bio-agents within 20 minutes.

The Applicant has cancelled Claims 21 and 26-27, and incorporated the limitations into amended Claim 1, the only independent claim in the subject application. In addition, the Applicant has amended Claim 19 to include the features contained in the detailed description of the Applicant's best mode of the invention in paragraphs 13 and 18 on pages 3, 5-6 and FIGS. 1-3 of the subject specification. The Applicant firmly believes that the presently amended claims are more clearly distinguishable over the newly cited references of Lehman in view of Rotman and Burdine and will greatly narrow any issues that remain as to the patentability of the presently claimed process. The Applicant has also amended dependent Claim 23 to refer to the second filter defined in amended Claim 19 and Claim 28 so it depends on amended Claim 19.

### **Applicant's Detailed Response**

The Applicant's invention defines a method that can handle bio-agents released in any large number of protected rooms, i.e., enclosed spaces, in a building as a result of a sudden event such as a terrorist attack; see paragraph 16 bridging pages 4-5 of the subject specification. Specifically, Claim 19 defines a method of using a sufficient number of filters and biosensors and an alarm system to warn and allow the occupants of a building having such a large number

of enclosed spaces to immediately leave the contaminated space of the building; see paragraphs 18 and 19 on pages 5-6 of the subject specification for support. Amended Claim 1 defines the filter bed as containing a sufficient amount of GAC to prevent a breakthrough of the bio-agent spike from the bed into any section of the building during the time required by the biosensor to detect and confirm a release of bio-agents and to sound the alarm; see cancelled Claim 27 and paragraph 18 of the subject specification.

The Examiner has newly cited Lehman as the primary reference. Lehman discloses and claims an entirely different method and system than claimed by the Applicant. Lehman's method and system is for protecting postal workers who are running mail-handling lines where one or more pieces of mail on the conveyor could contain and release anthrax spores and the like, thus contaminating the workers and a large amount of nearby mail. Unlike the Applicant's method, Lehman's is solely for the protection of those employees in the mail sorting facility from anthrax or other similar biological materials that are contained within the mail being sorted; see paragraphs 002, 003-012-026, 029-033, 036-039, 041-046. In paragraph 0025, Lehman discloses the claimed method can also be used to remove airborne contaminants that are not particularly harmful to humans. However, there is no suggestion in Lehman to one skilled in the art of the type of modifications that would be made to the Lehman method and system, if the non-harmful contaminants were present.

Specifically, Lehman discloses in paragraph 45 that a conveyor transports mail to a vacuum device that creates a down draft of air to wash the air contaminants, e.g. anthrax spores, pollen, etc., from the mail. The exhaust air is passed through at least two stages of filtration with pre-filter 85 to remove a first coarse particulate and a HEPA filter to remove fine, <0.5 micron particles, and optionally a volatile organic carbon (VOC) filter in case there are chemical warfare agents involved in the mail.

The problem solved by Lehman is a very different than the problem solved by the Applicant, which is a terrorist attack by the release of a bio-agent at an unknown location into the air prior to passing into one of a number of enclosed spaces within a building and not from a release as the result of sorting items such as mail. So the protections and response times presently claimed by the Applicant are very different than those of Lehman.

In the Applicant's method, the outside air is passed through a filter before the air is passed to one of the plurality of enclosed spaces or rooms. If there is a presence of bio-agents, the biosensor within 20 minutes senses the attack and sends an alarm warning the occupants.

Not one of the secondary references cited by the Examiner even remotely makes up for the deficiencies of Lehman.

The Examiner cites Rotman for its teaching of a biosensor and alleges it would be obvious to use Rotman's sensor in the Lehman process. As stated in the foregoing remarks on Lehman, even if one skilled in the art would somehow use the Rotman biosensor method in the Lehman process, the result would be completely different from that of the Applicant.

Rotman teaches an analytic method and system for detection and identification of different analytes, e.g., microorganisms, viruses, nucleic acids, polypeptides and a number of microbial using enzyme-free spores; see column 1, 13-15 of Rotman. The Rotman method is stated to be an improvement over the prior art analytical methods that require 24-48 hours for completion. A close analysis of this reference discloses the Rotman method requires approximately an hour when you add up the time for each of the steps of this method. Certain of the analytes that do not contain intrinsic germinogenic enzymes have to be immobilized on either discrete microscopic particles (see column 6, lines 34-37) or on the wells of, for example, a 96-well plate. Once the analytes are immobilized requiring from 5 minutes to (column 6, lines 8-11) up to 4 weeks (column 11, lines 42-45), they are contacted with a mixture of microbial spores, the generation of which can require 30 minutes (see column 11, lines 54-59). Optical readings are then taken at 15 minute intervals (column 11, lines 59-62).

To apply the Rotman teachings to the presently claimed process would require having a plurality of analysts placed throughout the building being protected, who are working 24 hours a day, 7 days a week. Such analysts would be immediately subjected to being contaminated by the very bio-agents under analysis.

The final newly cited reference, Burdine, is cited by the Examiner for its teaching of the use of an activated carbon bed in a filter. Beyond this similarity to Applicant's use of GAC, this reference makes up for none of the deficiencies of Lehman. The entire thrust of Burdine's method and apparatus is to send all outside air through the bio-agent destruction apparatus. The decontaminated air is forced into a home or other building only after the air has passed through

Burdine's complex decontamination system of filters, cold and hot corona generators, UV light generators, and other devices; see FIG. 2 and its description in paragraphs 0024-0032.

As it is believed that the only purpose for citing this reference is its teaching of the use of activated carbon in a system for protecting buildings from a terrorist attack, no further remarks will be made of this reference.

As the Examiner understands the Applicant's method, the Applicant's filter bed is decontaminated only after it has been determined by one of the biosensors to contain a bio-agent. It would be unobvious for one skilled in the art with this reference to change the apparatus so that it destroys bio-agents after they enter a building as in the Applicant's method.

The final newly cited reference, Galloway Publication 20030022035, is cited by the Examiner for its teaching of steam reforming carbonaceous feedstocks. As recognized by the Examiner, other than this teaching this Galloway reference makes up for none of the deficiencies noted above.

In view of the foregoing remarks, it is now believed that the Applicant's presently claimed method has been shown to be patentable over Lehman in view of Rotman, Burdine, and the two Galloway references, whether these references are taken alone or in combination and the 103 rejection has been overcome.

**Conclusion**

In view of the amendments to the claims and the foregoing remarks, Applicant has shown that Claims 19-20, 23 and 28, the only claims remaining in the present application, are allowable. Such allowance is respectfully solicited. If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (415) 984-8200.

Respectfully submitted,

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